C12P13/04

Office européen des brevets

(1) Publication number:

0 249 188

A3

(12)

EUROPEAN PATENT APPLICATION

21) Application number: 87108292.1

(3) Int. Cl.4: C12P 13/04 , //C12N9/10

2 Date of filing: 09.06.87

Priority: 09.06.86 JP 131743/86 23.01.87 JP 12513/87 30.03.87 JP 74476/87 25.04.87 JP 101152/87

- (43) Date of publication of application: 16.12.87 Bulletin 87/51
- Designated Contracting States:
 AT BE CH DE ES FR GB IT LI LU NL SE
- Date of deferred publication of the search report:
 25.01.89 Bulletin 89/04

Applicant: MEIJI SEIKA KAISHA LTD. 2-4-16 Kyobashi 2-chome
Chuo-ku, Tokyo 104(JP)

Inventor: Imai, Satoshi c/o MEIJI SEIKA KAISHA LTD Pharmaceutical Development Lab. 580 Horikawa-cho Saiwai-ku Kawasaki-shi Kanagawa-ken(JP)

Inventor: Takane, Nobuhiko c/o MEIJI SEIKA KAISHA LTD

Pharmaceutical Development Lab. 580 Horikawa-cho

Salwai-ku Kawasaki-shi Kanagawa-ken(JP) inventor: Yoshizawa, Yachiyo c/o MEIJI SEIKA KAISHA LTD

Pharmaceutical Development Lab. 580 Horikawa-cho

Saiwai-ku Kawasaki-shi Kanagawa-ken(JP) Inventor: Saito, Toshinori c/o MEIJI SEIKA KAISHA LTD

Pharmaceutical Development Lab. 580 Horikawa-cho

Saiwai-ku Kawasaki-shi Kanagawa-ken(JP) Inventor: Ogawa, Hiroshi c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Development Lab. 580

Horikawa-cho

Salwai-ku Kawasaki-shi Kanagawa-ken(JP) Inventor: Takabe, Hidehi c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Development Lab. 580

Horikawa-cho

Salwal-ku Kawasaki-shi Kanagawa-ken(JP)

Inventor: Sato, Atsuyuki c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Development Lab. 580

Horikawa-cho

Salwai-ku Kawasaki-shi Kanagawa-ken(JP)

EP 0 249 188 A3

EP 0 249 188 A3

inventor: Fukatsu, Shunzo c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Development Lab. 580

Horikawa-cho

Salwai-ku Kawasaki-shi Kanagawa-ken(JP)

Inventor: Okada, Akira c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Development Lab. 580

Horikawa-cho

Saiwai-ku Kawasaki-shi Kanagawa-ken(JP)

Inventor: Murakami, Takeshi c/o MEIJi SEIKA

KAISHA LTD

Pharmaceutical Research Lab. 760

Morooka-cho

Kohhoku-ku Yokohama-shi

Kanagawa-ken(JP)

Inventor: Hara, Osamu c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Research Lab. 760

Morooka-cho

Kohhoku-ku Yokohama-shi

Kanagawa-ken(JP)

Inventor: Miyado, Shinji c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Research Lab. 760

Morooka-cho

Kohhoku-ku Yokohama-shi

Kanagawa-ken(JP)

Inventor: Kumada, Yoichi c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Research Lab. 760

Morooka-cho

Kohhoku-ku Yokohama-shi

Kanagawa-ken(JP)

Inventor: Anzai, Hiroyuki c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Research Lab. 760

Morooka-cho

Kohhoku-ku Yokohama-shi

Kanagawa-ken(JP)

Inventor: Nagaoka, Kozo c/o MEIJI SEIKA

KAISHA LTD

Pharmaceutical Research Lab. 760

Morooka-cho

Kohhoku-ku Yokohama-shi

Kanagawa-ken(JP)

Representative: Sajda, Wolf E., Dipl.-Phys. et ai
MEISSNER, BOLTE & PARTNER

Widenmayerstrasse 48 Postfach 86 06 24 D-8000 München 86(DE)

Process for the production of L-2-amino-4-(hydroxymethyl-phosphinyl)-butyric acid.

(hydroxymethylphosphinyl)-butyric acid (L-AMPB) is

now provided, in which (hydroxymethylphosphinyl)-2-oxo-butyric

4acid

EP 0 249 188 A3

(OMPB) is treated with one or more transaminases or with one or more microorganisms capable of producing the transaminase, in the presence of one or more amino-donor compounds such as α -amino acids. According to this process, the optically active L-AMPB useful as herbicidal agent can be produced efficiently in a facile way for a reasonable reaction time.



EUROPEAN SEARCH REPORT

Application Number

EP 87 10 8292

| | | IDERED TO BE RELEV | VANI | |
|--|---|--|--|--|
| Category | Citation of document with of relevant p | indication, where appropriate, assages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl. 4) |
| A | EP-A-O 068 497 (Mi * Claims; pages 11 | | 1 | C 12 P 13/04 // C 12 N 9/10 |
| A | GB-A-2 161 159 (GF * Claims * | RACE) | 1 | |
| A | PATENT ABSTRACTS OF 118 (C-111)[996], 2 JP-A-57 47 485 (MEI 18-03-1982 (Cat. D, | JI SEIKA K.K.) | 1 | |
| E | EP-A-0 248 357 (HC * Claims * | DECHST) | 1-15 | • |
| | | | - | |
| | | | | TECHNICAL FIELDS SEARCHED (Int. Cl.4) |
| | | | | C 12 P C 12 M |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | The present search report has b | een drawn up for all claims | | |
| | Place of search | Date of completion of the sear | | Exeminer |
| THE | HAGUE | 02-11-1988 | DELA | NGHE L.L.M. |
| X : parti Y : parti docu A : tech O : non- | CATEGORY OF CITED DOCUME icularly relevant if taken alone icularly relevant if combined with an iment of the same category nological background written disclosure mediate document | E: earlier pat after the f other D: document L: document | cited in the application cited for other reasons | shed on, or |

FPO FORM 1503 03.82 (P0401)

| •••••• | •••••• | *************************************** | ••••• | ********* | SENDEBERICHT | AGREVO | (30 APF 069/305 | | | ••••••• |
|------------|--------|---|----------|-----------|------------------|---|--------------------|--------|-----------|---------|
| | | | | •••••• | •••••••••••••••• | *************************************** | ••••••• | •••••• | (AUTO) ·· | •••••• |
| DIESE | DATETE | N MUKDEN | GELÖSCHT | | | | | | | |
| DATEI | ART DE | R DATEI | OPTIC | N | TE | EL NR. | SE | ITEN | ERGEBNIS | ; |
| 024 | SENDEN | | | | 19 | 982410 | 37 | , | E-1) | |
| | | | | | | | | | | |

.....

FEHLER

1) ÜBERTRAGUNGSFEHLER 4) KEINE FERNKOPIERER VERBINDUNG 2) BESETZT 3) KEINE ANTWORT 5) 8 MIN. SENDEZEIT ÜBERSCHRITTEN

| •••••••••••• | ••••• | ••••• | •••••• | ••••• | ••••• | SENDEBERICHT | *************************************** | . .(30 | APR | '99 | 10:35) | |
|--------------|-------|---------|--------|----------|-------|--------------|---|---------------|--------|-------|---------|-------|
| | | | | | | | AGREVO | 069 | /3052 | 200 | | |
| | ••••• | ••••• | •••••• | •••• | ••••• | ••••••• | *************************************** | •••••• | •••••• | ••••• | (AUTO) | ••••• |
| | DIESE | DATEIEN | WURDEN | GELÖSCHT | | | | | | | | |
| | DATEI | ART DER | DATEI | OPTI | NO | TE | EL NR. | | SEI | TEN | ERGEBNI | :5 |
| | 027 | SENDEN | | | | 19 | 982410 | | 19 | | OK | |

FEHLER

1) ÜBERTRAGUNGSFEHLER 2) BESETZT 3) KEINE ANTWORT 4) KEINE FERNKOPIERER VERBINDUNG 5) 8 MIN. SENDEZEIT ÜBERSCHRITTEN